



 **Manulife** Investment Management

Sustainable investing

Timberland 2022

A message from Tom Sarno

Globally—and for our business—2021 was a year of profound change. We wished our former CEO Bill Peressini well as he entered into retirement and were delighted to welcome our new Global Head of Real Assets Christoph Schumacher. We rebranded as Manulife Investment Management, bringing our 36-year track record as Hancock Natural Resource Group (HNRG) under the same banner as the rest of our private and public investment management capabilities. And after six years of hiatus, we reentered Brazil with two significant acquisitions for our clients.

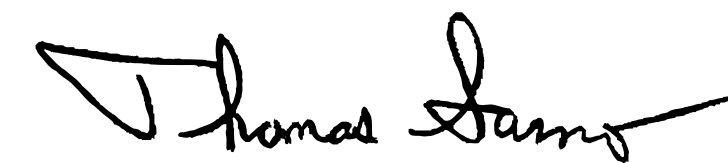
As the world shifts into a “new normal” post-COVID-19, we’ve seen many changes on the global scene that we expect to be both positive and enduring. Corporate net-zero commitments have taken off exponentially, and with them, a focus on forests’ ability to offer natural climate solutions. We’re thrilled to be supporting Manulife’s [Journey to Net Zero](#) and acquired Project Blueback in Maine—nearly 90,000 acres of forest to be managed for climate impact and carbon value—as a cornerstone of Manulife’s strategy. Further afield, we’ve collaborated with forest sector colleagues in the World Business Council for Sustainable Development (WBCSD) to launch Phase I of the [Forest Sector Net Zero Roadmap](#).

The rise of natural capital is another global trend we believe to be positive and enduring. Just as the [Dasgupta Report](#) has highlighted global biodiversity loss and what to do about it, natural capital is picking up steam as an investment consideration. While it’s not a new concept, the idea that it can be measured and monetized at scale certainly is, and markets are beginning to pay attention. Witness last year’s announcement of the US\$10 billion Natural Capital Investment Alliance and the launch of Natural Asset Companies on the NYSE as two examples. As stewards of nearly 6 million acres brimming with

natural capital, we’re deeply engaged in the global conversation on business and nature: We’ve helped to lay out the [framework for the Task Force on Nature-related Financial Disclosures \(TNFD\)](#), putting forward [our approach to valuing biodiversity](#), and defining [how companies can be “nature-positive.”](#)

Yet the more things change, the more they stay the same. One thing that hasn’t changed is our unwavering commitment to full-service sustainable timberland investment management for our clients, whether the objective is financial returns, carbon sequestration, ecosystem preservation, or a combination. Sustainability is core to our investment process and our property management, from harnessing our proprietary sustainability tool kit during due diligence for all transactions, to ensuring 100% of our forests are globally certified as sustainable, to insisting on high-integrity carbon project development through our carbon principles, carbon standards working group, and carbon tool kit for evaluating new projects.

For us, good stewardship has always been, and still is, good business. As we continue to produce products essential to a growing population—sawlogs for the houses we live in and the furniture we sit on and pulpwood for the paper we read and the packaging and hygiene products we use—2022 promises to be a year to remember for forest carbon. We have exciting things in store and look forward to you joining us.

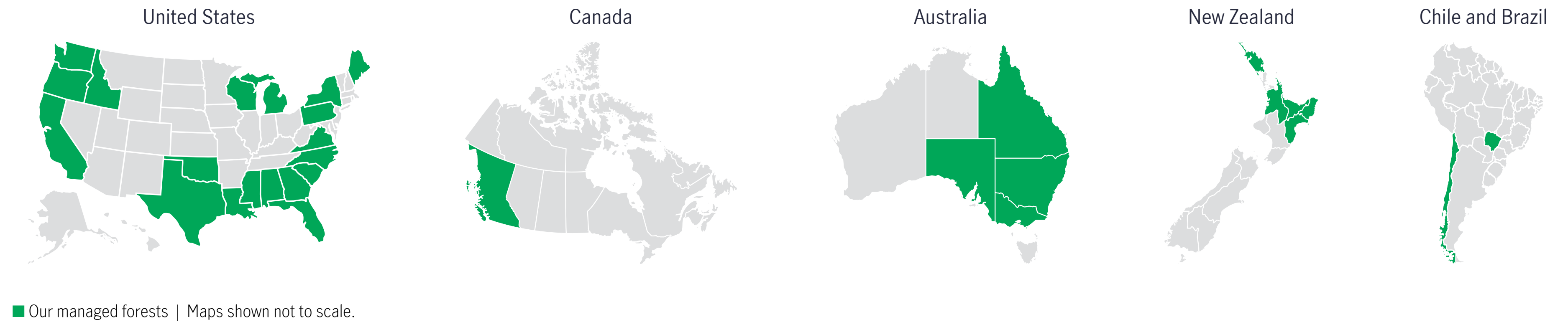


Tom Sarno

Global Head of Timberland Investments, CIO

Where we invest

We manage forests around the globe in key institutional timberland investment regions



Category	USA	Canada	Australia	New Zealand	Chile	Brazil
Assets under management (USD million)	\$6,625	\$56	\$2,043	\$2,416	\$295	\$89
Acres (thousands)	3,579	49	1,376	527	180	163
Commercial species per region	Douglas fir, western hemlock, cedar, ponderosa pine, loblolly pine, longleaf pine, maple, cherry	Douglas fir, western hemlock, cedar	Radiata pine, Caribbean and slash pine, hoop pine, eucalyptus	Radiata pine	Eucalyptus, radiata pine	Eucalyptus

Source: Manulife Investment Management, 2021.

How we invest

Good stewardship is good business

When the investments you manage are living organisms and ecosystems, you see them differently. Our clients' financial success is directly dependent on the health of our forests. And those forests depend on, and are affected by, our management decisions. Our modern, science-based forest management decisions create resilient and healthy forest conditions across our global assets. From our investment process to our property management, sustainability is a core consideration that underpins everything we do.

The climate impact of an investment should be a core consideration. As the table below showing our 2021 timberland greenhouse gas (GHG) inventory illustrates, timberland investments can sequester far more CO₂ than the emissions they generate.

2021 timberland certification and GHG inventory statistics

Category	USA	Canada	Australia	New Zealand	Chile	Brazil
Certification	100% (SFI®)	100% (SFI)	100% (FSC®, PEFC)	100% (FSC, PEFC)	100% (FSC)	100% (FSC)
Scope 1 emissions	21	0	58	1	0	N/A
Scope 3 emissions	104	1	28	55	8	N/A
Carbon sequestered	5,215	146	1,865	361	-1,429	N/A
Net carbon sequestration	5,090	145	1,779	305	-1,437	N/A

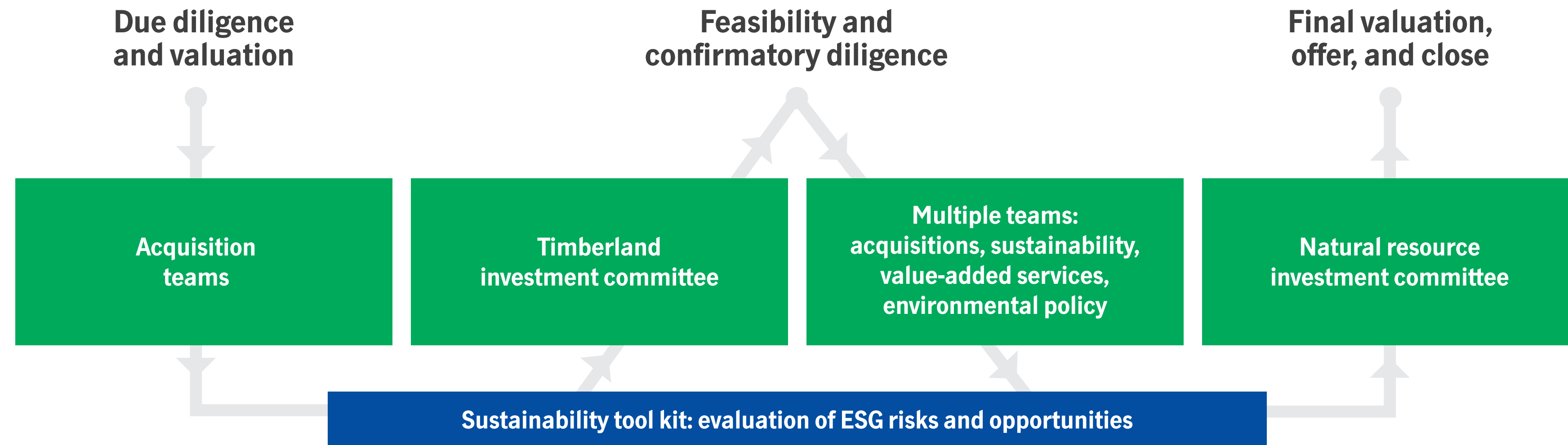
Source: Manulife Investment Management, 2021. SFI refers to the Sustainable Forestry Initiative; FSC refers to the Forest Stewardship Council; PEFC refers to the Programme for the Endorsement of Forest Certification. All GHG figures shown in thousand tCO₂e; carbon sequestered includes net forest carbon stock growth and long-term storage in harvested wood products. GHG profile for Chile will be available in 2023 after a full year of data is available. Scope 1 emissions are direct emissions from sources that we control. These include timberland emissions from fertilization and prescribed burns. Scope 3 emissions are indirect emissions in the value chain. Timber emissions associated with harvesting activity are classified as scope 3 as harvesting is conducted by contractors. Positive net carbon sequestration means removals exceed emissions; negative net carbon sequestration means emissions exceed removals.



We manage the assets under our care to ensure their optimal health, both because it's the right thing to do—and because *it's good business*.

The investment process: using our sustainability tool kit

In our investment process, we use a proprietary question-based tool co-developed in house by our sustainability, acquisitions, and operations teams to identify, assess, and score environmental, social, and governance (ESG) components of every deal we consider. Together with our zero-deforestation policy, carbon principles, and carbon tool kit, this approach helps to ensure that we can positively impact the environment and society through the investments we make.



SRI theme	Climate stability	Ecosystem resiliency	Watershed protection	People empowerment	Community prosperity
Risks and opportunities	<ul style="list-style-type: none"> • Climate change impacts • Emissions • Deforestation • CO₂ sequestration 	<ul style="list-style-type: none"> • Sensitive lands • Protected areas • Biodiversity • T&E species • Mitigation banking 	<ul style="list-style-type: none"> • Water quantity/quality • Flood, drought risk • Groundwater depletion • Water banking 	<ul style="list-style-type: none"> • Health and safety • Training and development • Labor practices • Human rights 	<ul style="list-style-type: none"> • Community relations • Indigenous peoples • Job creation • Research, internships

Source: Manulife Investment Management. For illustrative purposes only. SRI refers to sustainable and responsible investing. T&E refers to threatened and endangered.



Asset management: leveraging third-party certification

In our asset management, we continue to manage 100% of our global forests to achieve independent third-party sustainability certification under the [Sustainable Forestry Initiative®](#) (SFI®) and/or [Forest Stewardship Council®](#) (FSC®). Some of our forests in Australia and New Zealand carry dual FSC and PEFC (Programme for the Endorsement of Forest Certification). We've been managing our forests to these rigorous programs—which are essentially ESG standards for forest management—long before the concept of sustainable or ESG investing became mainstream. They continue to prove their relevance today, addressing considerations from biodiversity to water, forest health to conservation value, and indigenous peoples' rights to training and education.

What does *certified* mean?

When a forest is certified, it means that an independent third-party auditor has confirmed that the forest is being managed in a sustainable manner in alignment with the objectives and principles established by the certification program.

Typically, there are three parties involved: the standard-setting body (an independent nonprofit such as the SFI or the FSC), the certification body (an auditor that must be accredited, independent, objective, and qualified), and the program user (land manager). The auditor conducts a rigorous, on-the-ground assessment to evaluate the conformance of operations against the program standard. Forest certification programs were some of the first sector-specific ESG standards, and becoming certified entails demonstrating alignment with a comprehensive slate of ESG priorities, from mitigating climate change to preserving biodiversity to engaging with local communities.



Climate



Climate stability

We seek to limit the impacts of climate change by responsibly using and managing land, creating carbon sequestration opportunities with our forests, and mitigating climate change through investing in renewables and energy efficiency.

Climate change presents both risks and opportunities for timberland investing. As a signatory to the TCFD, we believe it's essential to drive financial markets toward investments, activities, and products that help mitigate and adapt to climate change. We issued our [inaugural climate disclosure in 2020](#), detailing our governance, strategy, risk management, and metrics and targets when addressing climate change. Since then, our foundational approach hasn't changed, but our depth of understanding and level of commitment have—beginning with Manulife's 2021 announcement of [Our Journey to Net Zero](#).

While our timberland investments sequester far more carbon than they emit, we recognize that emission reductions are critical for society to meet the goals of the Paris Agreement. That's why we're developing a timberland investment decarbonization strategy that will help us play our part, both in reducing Manulife's scope 1 and scope 2 emissions by 35% by 2035 and in contributing to society's efforts to achieve net-zero climate goals.



What's in a climate disclosure?

Governance—The organization's governance around climate-related risks and opportunities. Read more on page 8.

Strategy—The actual and potential impacts of climate-related risks and opportunities on the organization's businesses, strategy, and financial planning. An example can be found on page 10.

Risk management—The processes used by the organization to identify, assess, and manage climate-related risks. For more information, see our [2020 climate disclosure](#).

Metrics and targets—The metrics and targets used to assess and manage relevant climate-related risks and opportunities. Read more on page 14.

Source: [TCFD for real assets investors](#), PRI, April 27, 2021.

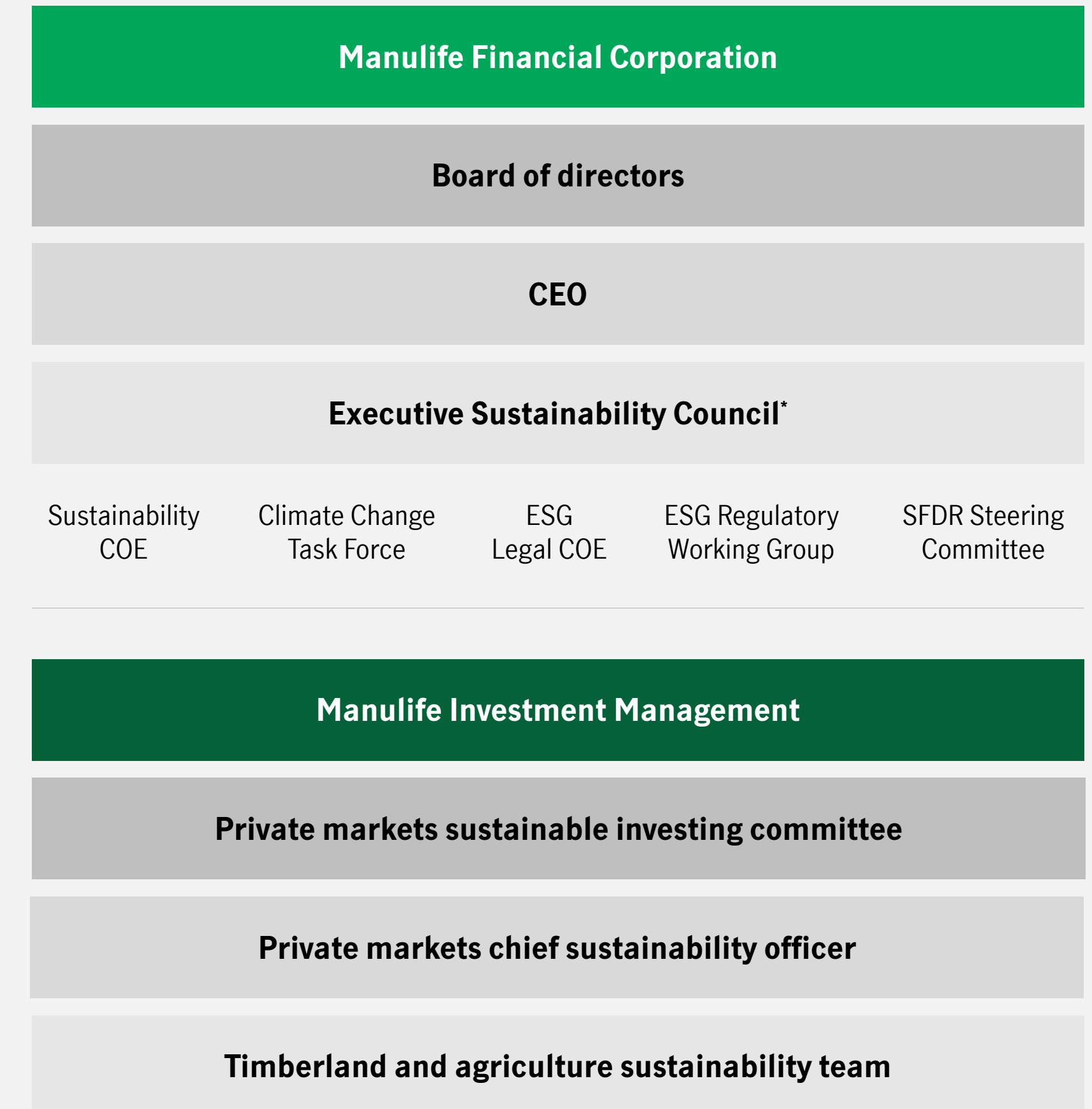
Governance: our organizational approach to sustainability

Alongside the rebranding of HNRG to Manulife Investment Management, we've strengthened our governance of climate change risks and opportunities through new linkages across the Manulife and Manulife Investment Management sustainability ecosystem.

Our commitment to sustainability involves leaders in all asset classes, as well as representatives from functional areas such as operations, legal, compliance, risk, and technology. As a result, governance bodies across Manulife Investment Management ensure that sustainability issues are embedded within our long-term business strategies and day-to-day work activities.

The graphic at right illustrates sustainability governance at Manulife, from the board of directors and CEO all the way through each business unit. In the case of timberland investing, key sustainability decisions related to business-wide policy and commitments are taken by the private markets sustainable investing committee, with direction from the private markets chief sustainability officer and support from the timberland and agriculture sustainability team. Sustainability decisions affecting particular areas of the business are taken collaboratively through the participation of sustainability team members in decision-making bodies (for example, through investment committees or strategy working groups).

Sustainability governance at Manulife



* Executive Sustainability Council includes Manulife chief executive officer, analytics officer, marketing officer, HR officer, sustainability officer, financial officer, operations officer, investment officer, and risk officer.
COE refers to Center of Expertise. SFDR refers to Sustainable Finance Disclosure Regulation.

Strategy: three pillars of our global [Journey to Net Zero](#)

Our vast natural resource holdings have enabled us to realize net-zero emissions in our operations, and we're uniquely positioned in our sector to accelerate the use of nature-based solutions in the fight against climate change.

Operations

Substantially reducing emissions to lessen our footprint

- We're proud to share we are net zero in our operations and uniquely positioned due to the carbon removals from our substantial owned and operated forests and farmland outweighing our scope 1 and scope 2 emissions.
- Manulife is committing to reduce absolute scope 1 and scope 2 emissions by 35% by 2035. We'll take steps such as enhanced efficiency measures, fuel switching, and use of on-site renewables in our buildings to achieve this target.



Investments

Actively investing for a sustainable future

- We're committed to steering our investment portfolio to be net zero by 2050.
- We'll continue to grow our CAD\$39.8 billion in green investments, such as renewable energy, energy-efficient real estate, timberland, and agriculture.
- Manulife has committed to the [Science Based Targets initiative](#), which will guide target setting, measurement, and progress reporting.



Products and services

Contributing to climate change mitigation and resilience

Through our capabilities in timberland and agriculture, we'll accelerate the development of investment strategies for those interested in nature-based solutions that capture even more carbon per dollar invested.





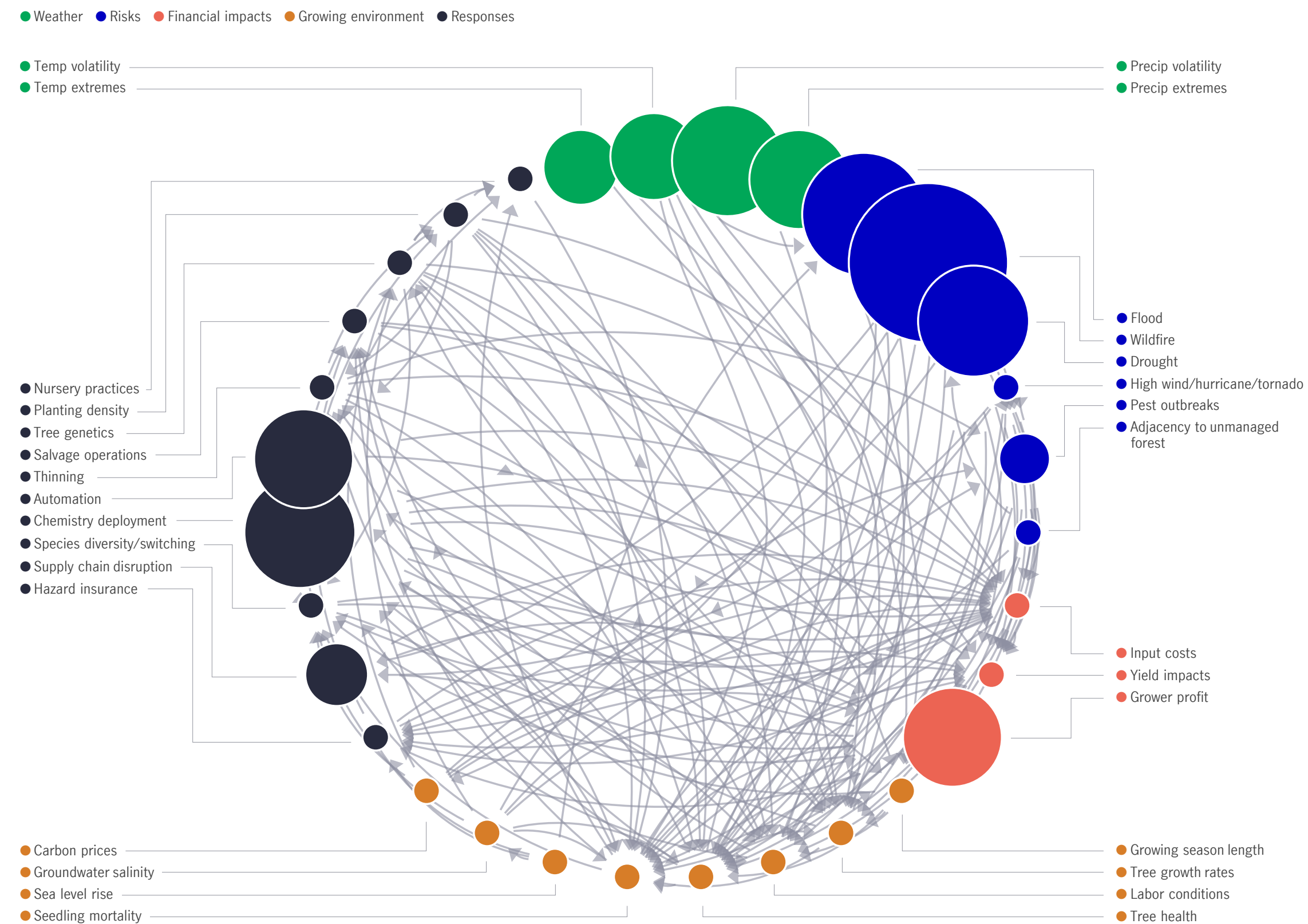
Strategy: scenario analysis

While climate change itself may be certain, the extent of its impacts is not. To ensure the resilience of a climate strategy given the multiple possible climate outcomes, companies conduct various scenario analyses. These are challenging exercises for many reasons, especially when considering biological assets, because of significant uncertainties around the ability of these assets to adapt to changing climate conditions. While standard scenarios and business responses exist in the energy industry for example, to date there's no equivalent for timberland.

Nevertheless, in 2020 we conducted a pilot scenario analysis of our New Zealand timberland that we reported in our climate-related financial disclosure. In 2021, we built on the pilot and extended the analysis across our entire platform, engaging our forest operations professionals from the United States, Chile, Brazil, Australia, and New Zealand in workshops to better gauge our ability to prepare for the realities of climate change.

While these workshops unveiled a treasure trove of information, our most important takeaway was how similar the types of risks were across forest types and geographies. While different in degree, the number of key risks is small, although they interact and influence each other in ways that simple linear cause-effect relationships don't accurately convey (see page 11). Climate change is a systems problem, and as we show on the next page, we've adapted our thinking about it to reflect that reality.

Strategy: scenario analysis



Source: Manulife Investment Management, March 31, 2022. For illustrative purposes only.

Climate and forests

Understanding climate impacts and dependencies

Climate change is complicated. As we seek to understand ways in which our timberland business will be affected by climate change, it's helpful to consider the relationship between climate and forests as a system in which different factors interact with one another. For example, extreme temperatures could lead to drought, which could lead to wildfire or increase the chance of pest outbreaks, both of which would result in financial loss. But extreme temperatures could also add urgency to the global policy agenda for implementation of carbon prices, which could lead to financial gains.

The important point is that these relationships are not linear but interacting. Through our scenario analysis workshops, we identified variables relating climate change to our business and then developed a way to illustrate the relationships between them. The graphic at left shows the different types of factors (color coded) as well as the extent to which they may influence other factors. The larger the circle, the more factors are influenced by it (illustrated by the arrows between factors).

As we progressively deepen our climate scenario analysis, it helps to have a framework that can account for the complexity of the interaction between forests and climate change.



Case study

Climate risks: silviculture research

In many ways, trees are like people. If they have enough food, water, light, and protection from the elements, they're usually healthy. If they're dehydrated, malnourished, starved of light, or exposed to extreme temperatures or winds, staying healthy is more difficult. The point is that while a changing climate can affect forest health, so can an experienced forester, and there are strategies for fostering an environment that are conducive to growing healthy and resilient trees. This is called silviculture, and fortunately, our team has some of the best silviculturists in the business.

Our silviculture approach is adaptive to both current and future climate-related risks—and opportunities. We belong to eight university cooperative research programs related to forest tree improvement, forest productivity, forest health, and growth and yield, all of which inform our management practices using the most current science. This enables us to tailor our species selection and management approach for each property in order to provide healthy forests, yielding the highest degree of adaptation and resilience. It also enables us to take advantage of the positive aspects of climate change: Evidence suggests that forests may benefit from higher CO₂ levels (carbon fertilization) and longer growing seasons.

Case study

Climate opportunities: Maine acquisition

In many ways, our most significant acquisition of 2021 was an 89,000-acre forest in the U.S. state of Maine. The property, named “Blueback” for the highly sought-after subspecies of Arctic char native to this region, is a contiguous block of timberlands with a diverse mix of naturally regenerated spruce fir and northern hardwood tree species. Blueback will be managed for Manulife’s general account as a carbon-focused investment underpinning its net-zero journey. The core of the investment thesis is centered on the timberlands being used primarily to store carbon and to generate high-quality, high-integrity carbon credits. Manulife reserves the option to sell the carbon credits as offsets or use the carbon removals as “insets” (applying the carbon credits generated by forests owned by the company in order to neutralize its own emissions) for the purpose of meeting the firm’s net-zero commitments. Additionally, the lands are subject to a working forest conservation easement and offer unique recreation opportunities given the scenic lakes, rivers, and ecological features of the region. A portion of the lands will also be used for sustainable stewardship practices as a working forest.

Metrics

Metrics can never tell the whole story, but they can certainly show part of it. This table tracks our climate progress to date.

Metric	2021	2020	GIIN
Properties managed	101	97	OI1674
Total standing forest carbon stock (tCO ₂ e)	615,204,003	607,912,905	N/A
Scope 1 GHG emissions (tCO ₂ e)	80,035	76,753	OI4112
of which: managed fire emissions (tCO ₂ e)	52,318	51,200	OI4112
of which: fertilizer (N ₂ O) emissions (tCO ₂ e)	24,838	22,411	OI4112
of which: fuel combustion emissions	2,879	3,142	OI4112
Scope 2 GHG emissions (tCO ₂ e)	0	0	OI9604
Scope 3 GHG emissions (tCO ₂ e) ¹	195,330	159,617	PD9427
Biogenic stock change (tCO ₂ ; + sequestration, - emission)	3,179,520	3,703,626	PI9878
Carbon stored in harvested wood products (tCO ₂ e)	2,979,656	2,917,609	PI9878
Net sequestration (tCO ₂ ; + sequestration, - emission)	5,883,811	6,384,865	PI9878
5-year average sequestration (tCO ₂ ; + sequestration, - emission)	2,747,187	2,522,044	PI9878
Number of tree species grown (plantation total) ²	15 63	N/A	PD9009
Percent net productive area	82.9	81.8	N/A
Percent of net productive area harvested	2.9	2.7	PI3468
Percent of net productive area planted	2.6	2.5	N/A
Percent of harvest to solid wood	59.2	62.4	PD8494
Percent of harvest to fiber	40.7	37.6	PD8494
Percent of harvest to biomass	0.0	0.0	PD8494
36-year history number of trees planted	1,253,935,422	1,198,756,740	N/A
36-year history number of houses built ³	2,406,465	2,282,001	N/A

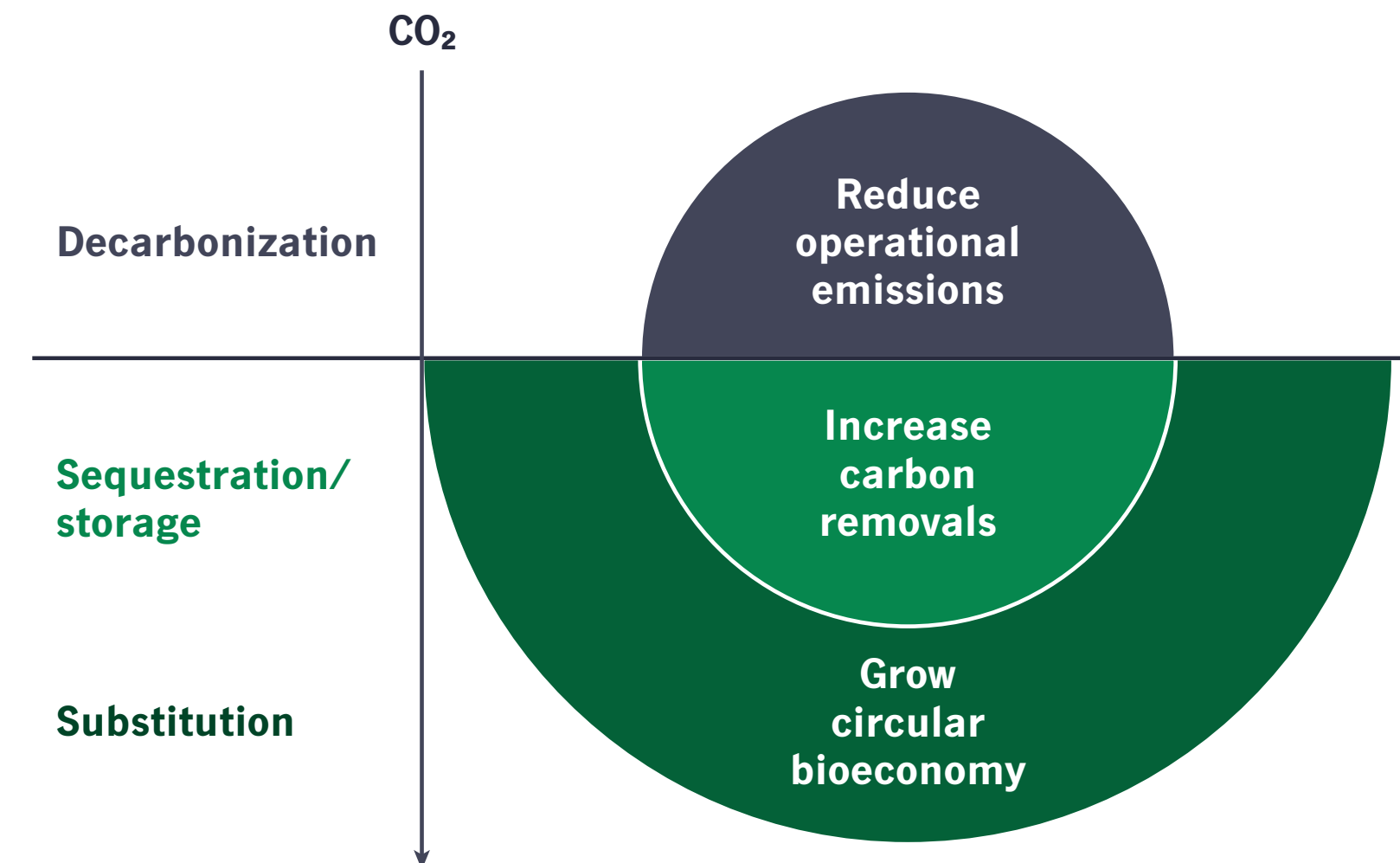
Source: Manulife Investment Management, 2021. GIIN refers to Global Impact Investing Network [IRIS+](#) metric codes.

1 Scope 3 emissions currently accounted for include categories 1 (purchased goods and services such as contractor harvesting) and 12 (end of life treatment of used products such as emissions from short-lived harvested wood products, although these are conservatively treated as scope 1 emissions). They do not currently include upstream or downstream transportation of products, or processing and milling. **2** Total includes 48 naturally regenerating species. **3** Estimated number of houses that could be built with the volume of sawtimber we have harvested in our 36-year history.

Targets

2021 could justifiably be called the “year of net-zero commitments.” [Manulife's Journey to Net Zero](#) and our co-leadership of the WBCSD’s [Forest Sector Net Zero Roadmap](#) certainly inform our climate targets. We’re focused on all three of the key levers that the road map outlines for the forest sector to facilitate positive climate impact.

The forest sector’s three levers of impact



Source: [wbcscd.org](https://www.wbcscd.org), November 6, 2021.

Our climate targets

1

Decarbonization strategy launch—In 2022, we’ll develop a comprehensive strategy to reduce our operational emissions. Some sources are easier to reduce than others; for example, not using fertilizer or not prescribing controlled burns could have unintended negative climate impacts such as reducing tree growth rates or increasing vulnerability to wildfire. Approximately three-quarters of our emissions come from our value chain, highlighting the importance of partnering with our contractors.

2

Launch of forest strategy focused on carbon sequestration—While many timberland investments sequester carbon, far fewer make carbon sequestration the top priority. Our strategy, planned for launch in 2022, will do just that.

3

Net-zero commitment partnerships—Within our own business, we’ll partner with our Australia and New Zealand timberland investment companies to support the net-zero commitments that all five of their boards made in 2021 on behalf of their investors. Further afield, we’re bolstering our research in mass timber economics, which offer the promise of longer-lived wood products to keep carbon out of the atmosphere for longer.

Nature



Ecosystem resiliency

Healthy ecosystems provide immense value to the vitality of communities and economies. To ensure this for generations to come, we operate in a way that responsibly manages land and protects sensitive lands* and biodiversity.



Watershed protection

Protecting and improving watersheds is vital for the ecosystems and communities that depend on them. We do this by protecting sensitive lands,¹ adhering to strict water and land management policies and best practices, and supporting forest growth.

Nature is our business. Forests are ecosystems—environments full of living plants and animals engaged in a complex web of interactions. Our objective is to produce a healthy return for our clients by keeping these ecosystems healthy. These ecosystems are a form of capital—natural capital—and they provide services, both to us and our investors, in the form of timber that can be sold to make useful products, and to society, in the form of regulating services (such as carbon sequestration or water filtration) and cultural services (such as recreational opportunities or aesthetic values).

As biodiversity continues to fall precipitously on a global scale, forests are taking center stage in the nature conversation just as they are in the climate conversation, since approximately [80% of terrestrial species live in forests](#). Keeping these species healthy requires maintaining their habitats in good condition. That's why ecosystem resiliency is one of our key sustainability priorities and we've had policies and procedures in place for decades that protect and preserve the healthy functioning of ecosystems.

It's also why watershed protection is another one of our key sustainability priorities. As climate change threatens to increase water stress on a global scale, the role of forests in helping to provide clean water can't be overlooked. Many cities rely on forests for water filtration in addition to, or instead of, traditional water treatment infrastructure, and this is why forest best management practices and sustainability certifications focus significant attention on management activities close to watercourses.

¹ Sensitive lands are defined as lands with critical habitat for sensitive or endangered species, or lands with high scenic, historical, cultural, or recreational value.

Case study

Breaking conservation records

Some asset managers might consider sensitive lands a liability; we consider them an asset. Whether it's the marbled murrelet, Kirtland's warbler, prairie chickens, Louisiana pine snake, gopher tortoise, or limestone prairies, we recognize the unique ecosystem roles that varied species—and their habitats—play, and we actively look for opportunities to conserve them.

In 2021, we succeeded in moving 4,600 acres of critical big game habitat and recreation land in Oregon's Minam River valley into public hands. The valley's unique environment, which is the gateway to the federally designated Wild and Scenic Minam River and adjacent to the Eagle Cap Wilderness area, supports a wide variety of species, including salmon, steelhead, bull trout, Pacific lamprey, wild turkeys, ruffed grouse, and black bear. Deer, moose, and elk rely on this area to find shelter and browse in the winter when the surrounding mountains are covered in deep snow.

This unique and culturally significant ecosystem could have been lost to future private development if not for the significant collaboration with the Oregon Department of Fish and Wildlife (ODFW) and the Rocky Mountain Elk Foundation (RMEF) in designing, funding, and completing this conservation project. It took five years of close collaboration with the ODFW and RMEF to permanently conserve this land at a price that also fulfilled our fiduciary duty to our clients, but when we move an additional 11,000 surrounding acres to the ODFW in 2023, its total acreage will become the largest single conservation project in the agency's history.

There are some landscapes so special that they really should be in the public trust and managed on the public's behalf to increase public enjoyment and wildlife value—this is one of them.



Case study

Protecting koalas

Many koala populations throughout Australia are suffering from a “genetic bottleneck” after coming close to extinction and then rebounding through their reproduction by just a handful of remaining individuals. These weak gene pools have led to kidney failure and increased susceptibility to other diseases. Fortunately, not all koalas are affected by this bottleneck and those found in the Strzelecki Ranges and Kangaroo Island are known to be resistant to several diseases that affect koalas found throughout other parts of Australia.

One of our Australian managed entities, [Hancock Victorian Plantations](#), manages nearly 88,000 hectares of forest in Victoria, including some found within the Strzelecki Ranges. Through our work with leading conservation bodies and the Victorian and South Australian governments, we helped secure four male koalas from a genetically robust population and transported them to [Koala Life](#) at a wildlife park in South Australia. These males will help form a captive breeding program with 28 female koalas rescued from Kangaroo Island, South Australia, during the bushfire season of 2019/2020. The offspring from the program will be available to Australia to augment koala populations and reduce the effects of the genetic bottleneck.



Metrics

Nature is challenging to measure, but the metrics below provide some insight into how much we prioritize it.

Metric	2021	2020	GIIN
Percent of forest third-party certified as sustainably managed	100%	100%	PI6796
Percent of forests with forest management plan	100%	100%	OI2622
Percent of forests with biodiversity assessment	100%	100%	OD0660
Percent of forests with conservation designation	20.0%	19.7%	PD9009
36-year history sensitive lands program acres conserved	479K	471K	PD9009
Number of stewardship projects conducted in our forests ¹	15	6	N/A
Number of stream miles protected by BMPs	20.5K	19.4K	OD4108

Source: Manulife Investment Management, 2021. GIIN refers to Global Impact Investing Network [IRIS+](#) metric codes. BMP refers to best management practice.

¹ Includes North America only.

Targets

Even as we practice good stewardship, demonstrating sustainable operations through third-party certification and participating in global conversations about what it means to be a nature-positive company, we're also focused on what concrete steps we can take today across our global timberland investment platform that enable our role in reversing nature loss. And we're focused on continuous improvement so that we plan for our performance, our ability to measure it, and our targets to change over time.

It's essential that we follow good stewardship practices, but it's also important to monitor their outcomes to ensure that our actions result in net-positive effects. That's challenging to measure and demonstrate but is no less important for nature and society.

What is nature positive?

Nature positive means halting and reversing the loss of nature at a planetary level, measured from a 2020 baseline. By 2030, the goal is to have regenerated and preserved nature through improvements in the health, abundance, diversity, and resilience of species, populations, and ecosystems.



Our nature targets

As signatories to the [Finance for Biodiversity Pledge](#), we commit to the following:

- 1 Collaboration and knowledge sharing**—We'll collaborate and share knowledge on assessment methodologies, biodiversity-related metrics, targets, and financing approaches for positive impact.
- 2 Engaging with companies**—We'll incorporate criteria for biodiversity in our ESG policies while engaging with companies to reduce their negative and increase positive impacts on biodiversity.
- 3 Assessing impact**—We'll assess our financing activities and investments for significant positive and negative impacts on biodiversity and identify drivers of its loss.
- 4 Setting targets**—We'll set and disclose targets based on the best available science to increase significant positive and reduce significant negative impacts on biodiversity.
- 5 Reporting publicly**—We'll report annually and be transparent about the significant positive and negative contribution to global biodiversity goals linked to the financing activities and investments in our portfolios.

As pledge signatories, we've taken these commitments, which are verbatim from the pledge, as our own, and will adapt them as needed. For example, because the investments we manage are real assets rather than companies, we could adapt "engaging with companies" to "engaging with value-chain partners," referring to contractors or purchasers of our products.

People



People empowerment

We value our people, employees, and contractors and work to ensure that we're offering not only safe and healthy working environments but the tools, training, and support they need to thrive.



Community prosperity

We're committed to supporting and strengthening the local and indigenous communities where we operate. We provide employment opportunities, public use of our land, engage with non-governmental organizations, and support local causes as part of our community stewardship.

Stewardship is as much about people as it is about the environment. It also applies as much to our own people—people empowerment—as it does to the communities where we operate—community prosperity.

Empowering our people means offering rewarding jobs and promoting a culture of excellence in a rewarding, safe, diverse, and inclusive environment.

Rewarding—In addition to competitive compensation, we offer all eligible full-time and part-time employees:

- **Generous parental leave**—We offer the opportunity to take up to 12 consecutive weeks of paid time off for the birth or adoption of a child
- **Extra personal time**—We offered five extra days of personal time in 2021, for the second straight year—in addition to existing vacation, family care, volunteer time, and personal time—in recognition of our employees' ongoing commitment despite the COVID-19 pandemic
- **Dedicated time for learning**—Every second Friday of the month, fuel-up Fridays give employees the opportunity to learn and grow their knowledge
- **Recognition**—Through Podium, a digital global recognition platform that enables us to express appreciation for our peers, leaders, and teams, anytime and anywhere.

Safe—Compared to the forest products industry safety benchmarks, our safety performance exceeds the standard by a wide margin. Depending on the country, our total injury frequency rates range from 30% to 90% below industry norms. We seek to uphold human rights and affirm the [UN Guiding Principles on Business and Human Rights](#) as well as national legislation prohibiting and seeking to eradicate modern slavery.



Diverse and inclusive—In 2021, we established a private markets diversity, equity, and inclusion (DEI) council to develop a strategy for DEI across private asset classes. The council includes representation from all private asset classes with a broad coverage of our major geographies and has four workstreams: DEI best practices and opportunities; education and initiatives; communications; and data and metrics. Through this activity, we’re seeking to create a culture that’s more inclusive, better engages every employee, and provides opportunities for advancement regardless of race, ethnicity, age, gender, sexual orientation, religion, ability, economic status, and other aspects of diversity.

Community prosperity means being good neighbors and contributing to the well-being of the communities in which we operate, whether to our contractors, indigenous communities, or the general public.

Contractors—In addition to our 900+ global employees, nearly 6,000 contractors work on our properties around the world. In some smaller rural communities, the scale of our operations makes us a key contributor to local economic activity. We prefer to buy local, maintaining a preferred vendor list and contracts with local companies wherever possible.

General public—We allow public access to nearly all of our global forest properties (with safety exceptions during active forest management operations), with opportunities for hunting, fishing, hiking, mountain biking, camping, and more. We extend hunting licenses to nearly 100 separate groups. We also maintain a special site protection program to safeguard areas of our property that are culturally, historically, or geologically unique.

Indigenous communities—We formally acknowledge the rights of indigenous peoples and employ many First Nation descendants as contractors in our operations. In our North American operations alone, over half of the forest properties we manage sit within 10 miles of a federally recognized tribal or First Nations landholding, and one in six intersects such landholdings. In some cases, indigenous communities contract with us to manage the forest on their behalf.

Case study

Contractor celebration recognizing safe and high-quality work in New Zealand

With a focus on delivering for our clients in a safe and environmentally positive way, the Manulife Forest Management New Zealand (MFM NZ) team works hard to build strong contractor relationships. A key part of this work is recognizing outstanding contractor performance.

The Enviromate and Safemate Awards are two initiatives where anyone working across the MFM NZ operation can be nominated for great environmental or safety work. The nominations are recognized either by a lunch delivery to contractors working in the forest or with gift certificates and letters of recognition sent to individuals.

An example of a recent Enviromate nomination was for Brown Logging Crew 53 in the MFM NZ central region. The crew was recognized for completing a difficult harvest while carefully managing activities around a waterway, a wahi tapu (sacred indigenous site), and a neighboring boundary with working farm operations.

Case study

Careers in conservation camp

We're often deeply engaged in the communities where we operate, both at a company level and as individuals.

In Texas, our foresters have been instrumental in working with a nearby university to create and execute a conservation careers summer camp for high school students. The camp exposes students to various career opportunities in natural resources, especially forestry, teaching them about the sector and encouraging them to pursue careers in the field.

These same foresters have also affected hundreds of students, teachers, and forestry professionals through assisting in numerous Project Learning Tree events—and planned an annual fun run and walk held in conjunction with the Texas Forestry Association annual meeting.

Metrics

Contributions to people empowerment and community prosperity can be difficult to measure, but this is how we're doing it right now.

Metric	2021	2020	GIIN
Number of employees (timber) ¹	721	719	N/A
Number of employees (total) ²	972	958	OI8869
Number of contractors (estimated) ³	4,542	4,113	N/A
Percent female	31%	30%	OI2444
Percent BIPOC (black, indigenous, and persons of color) ⁴	6%	5%	OI3236
Percent of executive team female	17%	33%	OI1571
Percent of executive team BIPOC	0%	0%	OI3862
Number new hires ⁵	50	54	OI5479
Percent attrition ⁶	12%	10%	OI1638
Total injury frequency rate ⁷	4.6	6.2	OI3757
Lost time injury frequency rate ⁷	2.9	4.4	OI3757
Percent employees responding to engagement survey ⁶	96%	90%	N/A
Percentile employee engagement survey score ⁶	57	58	N/A
Contributions to nonprofits ⁸	\$649K	\$613K	FP3774
Lands with public access (acres) ⁹	5,365,021	4,994,200	PD9009

Source: Manulife Investment Management, 2021.

1 Includes 111 (2020) and 93 (2021) employees with timberland and agriculture responsibility. **2** Includes 239 (2020) and 251 (2021) agriculture-only employees. **3** Timberland contractors only; full-time equivalent, not individuals. **4** Includes North America staff only. **5** Includes 10 (2020) and 9 (2021) employees with timberland and agriculture responsibility. **6** Combined result for timberland and agriculture. **7** Incidents per 1 million hours; 2020 is combined rate timberland and agriculture; 2021 is timberland only. **8** Combined result for timberland and agriculture; does not include Australia timberland operations or South America operations. **9** Public access—access of any type, including by permit, exclusive recreation lease, or unrestricted open public access.

Our people targets

1

Employee engagement—One sign of a great workplace is employee engagement. Our company currently performs at the 57th percentile globally in the Gallup employee engagement survey, with 96% of employees responding. We consider this positive, but significantly below where we'd like to be and are targeting top-quartile employee engagement in the near term.

2

Diversity—Forestry, agriculture, and finance are industries that have historically employed white men in most of the regions where we operate. The current makeup of our firm reflects that reality; however, we recognize the importance—culturally, ethically, competitively, and financially—of diversity and inclusion. That's why we're actively taking steps to become the firm we want to be by targeting the following:

- Increase black, indigenous, and persons of color (BIPOC) representation within our North American leadership by 60% by 2025 relative to 2021
- Achieve a sector-specific talent pool of 20% BIPOC hiring over the next four years (U.S. Agricultural and Natural Resources bachelor's degrees at 21% BIPOC)
- Increase the share of females in leadership roles to at least 20% in total by 2025

Looking ahead: natural capital comes into full view

Historically, the timber industry has been about producing the harvested wood products we all depend on in our daily lives. While we expect this to continue, we're also seeing growing appreciation for the other products forests can provide, whether it's carbon sequestration, water treatment, or wildlife habitat, to name a few.

These ecosystem services are more challenging to measure than harvested wood products. While that does not make them less valuable, it can inhibit agreement on what that value is, which in turn prevents markets for those services from developing.

This is changing as the development of technology for measuring nature and its benefits accelerates and economic methods for translating those measurements into value become more widely known and accepted. In particular, we expect natural capital accounting to take off, and with it, markets for ecosystem services.

Throughout our history, we've issued over 6 million carbon credits, and in early 2022, launched two new carbon projects. It's all part of our commitment to being a full-service timberland investment manager, creating value sustainably through products—and increasingly ecosystem services—for our clients and society. And we're confident that's just the beginning!



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A widespread health crisis such as a global pandemic could cause substantial market volatility, exchange-trading suspensions and closures, and affect portfolio performance. For example, the novel coronavirus disease (COVID-19) has resulted in significant disruptions to global business activity. The impact of a health crisis and other epidemics and pandemics that may arise in the future could affect the global economy in ways that cannot necessarily be foreseen at the present time. A health crisis may exacerbate other preexisting political, social, and economic risks. Any such impact could adversely affect the portfolio's performance, resulting in losses to your investment.

Investing involves risks, including the potential loss of principal. Financial markets are volatile and can fluctuate significantly in response to company, industry, political, regulatory, market, or economic developments. These risks are magnified for investments made in emerging markets. Currency risk is the risk that fluctuations in exchange rates may adversely affect the value of a portfolio's investments.

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